DOCUMENT RESUME

ED 250 814 EA 017 322

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TITLE The Role of the School Principal in School Improvement Efforts.
INSTITUTION Texas Univ., Austin. Research and Development Center for Teacher Education.
SPONS AGENCY National Inst. of Education (ED), Washington, DC.
REPORT NO R&DCTE-R-3182
PUB DATE 83
NOTE 49p.; For related documents, see EA 017 309-311 and EA 017 320-324.
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Administrator Responsibility; *Administrator Role; Elementary Secondary Education; *Instructional Improvement; *Principals; School Supervision; *Teacher Administrator Relationship; Teacher Evaluation; Teacher Improvement; *Teacher Supervision
IDENTIFIERS *Principal Teacher Interaction Study; University of Texas Austin

ABSTRACT

This paper considers the kinds of interventions that elementary school principals make for the purpose of improving practice in their schools. Findings are derived from the Principal-Teacher Interaction Study being conducted at the University of Texas at Austin, which has categorized interventions hierarchically at the following levels: policy, game plan, strategy, tactic, and incident. This paper presents only the results of the first data analysis of incident-level interventions from this study. After a review of the literature and a description of the Principal-Teacher Interaction Study, its taxonomy of interventions, and its schema for anatomizing each intervention, data are reported regarding frequency of interventions during the 2 years of the study, the targets of principals' interventions, their function, medium, and "flow" (i.e., interactive or one-way). The subsequent section presents 10 generalizations about the modus operandi of principals, followed by a case-by-case description of several exemplary types of intervention and their effects on teachers. A discussion of implications follows, along with an appendix describing the three change-facilitator styles (responders, managers, and initiators) and three pages of references. (TE)

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THE ROLE OF THE SCHOOL PRINCIPAL IN SCHOOL IMPROVEMENT EFFORTS

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Report No. 3182

Awarded the Best Research Study of
Administrators
1983

American Association of School Administrators

Presented at Annual Meeting

Atlantic City

New Jersey

EA 017 322

THE ROLE OF THE SCHOOL PRINCIPAL IN SCHOOL IMPROVEMENT EFFORTS[1,2]

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Increasingly, school leadership is cited as a factor of prime importance to school improvement. Most educators agree that the principal should play a key role in providing this leadership. Yet, many people and situations unrelated to instruction compete for a principal's attention during a school day. In fact, the one common element that seems true of almost all principals whether elementary or high school or whether city or small town or suburban is that their workday is very busy and highly unpredictable. There are mandated duties and emergency situations to which a principal must attend that cut into the time over which the administrator has discretionary power. Thus, how a principal chooses to use his/her discretionary time and resources is largely

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[1]The research described herein was conducted under contract with the National Institute of Education. The opinions expressed are those of the authors and do not necessarily reflect the position or policy of the National Institute of Education. No endorsement by the National Institute of Education should be inferred.

[2]The authors wish to acknowledge the contributions and participation of their colleagues in this study: Marcia Goldstein, Teresa Griffin, Susan Loucks, Terry Needham, Beulah Newlove, Suzie Stiegelbauer and Nova Washington. We also wish to acknowledge the valuable assistance that has been so willingly given by the principals and teachers who participated in the study.

dependent on the priorities that he/she sets for himself/herself[3] and the school. Since there is typically not enough time in the day for the principal to be all things to all people, the question of which interventions should be made to support school improvement efforts stimulates the most important set of decisions that the principal has to make.

In this paper the kinds of interventions principals make for the purpose of improving practice in their schools and the effects of these interventions on teachers will be considered. To consider these points, findings from the Principal-Teacher Interaction Study being conducted by the Research and Development Center for Teacher Education at the University of Texas at Austin will be used. These findings describe in detail the various types of interventions made by elementary school principals in the study. The interventions will be reported, then followed by a discussion of the effects of these interventions on the teachers involved.

Related Literature

As was suggested in the introduction, principals are often constrained by an overabundance of rules and regulations and an inadequate amount of time and resources. However, principals do have opportunities and resources which can be used to bring about change in their schools. Sarason (1971) found that principals have considerable authority, but differ in their knowledge and appreciation of its utility. He contends that the degree of authority that principals have depends very heavily on the extent to which they are able and willing to make use of the decision-making opportunities that do exist.

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[3]In order to assist the reader, from this point forward only masculine pronouns will be used when referring to "the principal." The authors are very aware that many school principals are female; this decision was made entirely for the purpose of facilitating the reading of this paper.

In a similar vein, Isherwood (1973) concluded from his observation of fifteen secondary school principals that opportunities for the development and exercise of "informal authority" seemed to exceed by far the formally designated powers and responsibilities of the principalship. Morris (1981) found from his research that there is much, rather than little, discretion available to the building level educational administrator. He further concludes that there is much room at the school site level for flexibility and adaptability in the application of school system policy.

If one accepts the contention that principals do have some authority over how they use their time, resources and power, then the next logical question is, "Will the way in which the principal uses this authority to intervene make any difference in the quality of instruction in the classroom?" Initial investigation of the literature related to this question seems to reveal contradictory evidence. However, under closer scrutiny, the literature may not be contradictory, but rather, differing veins of research could very well explain each other.

For example, Deal and Celotti (1977; 1980) have suggested that classroom instruction seems to be "virtually unaffected" by organizational and administrative factors. According to them, there is little evidence of administrative influence upon teaching and learning technology. Other researchers including McPartland and Karweit (1979) and Wolf (1979) have come to similar conclusions. It is possible that this vein of literature can be explained by another vein in which numerous researchers (Wolcott, 1973; Sproull, 1977, 1979; Peterson, 1978; and Martin, 1980) have found that instructional leadership (i.e., classroom observation, curriculum development, teacher inservice, etc.) is not a central focus of the principalship. If it is true that many principals are not focusing on providing instructional

leadership, then it is certainly understandable why some researchers have concluded that the principal does not affect classroom instruction.

Another group of researchers contend that the unit manager (principal) is the key to educational change (Baldridge & Deal, 1975; Berman & McLaughlin, 1978; Brickell, 1961; Miles, 1971; Tye, 1973). In all of these studies there is evidence to suggest that principals are extremely influential in the process of bringing about change in instruction. Unfortunately, documentation about what they actually do on a day-to-day basis to facilitate or hinder that process has been minimal.

However, another vein of related literature, the research on effective schools, is beginning to provide some insight into what principals do that makes them effective. For example, Stoll (1979) compared overachieving and underachieving schools in the state of Florida. In terms of test results in reading, he found that the more effective schools were more likely to have administrators who communicated the importance of reading, worked toward a coordinated reading program, and took steps to provide adequate instructional materials. Hall, Hord and Griffin (1980) found that in schools where the principal appeared to be concerned about teachers' use of a specific innovation, the manner in which the teachers were using the innovation was more consistent within those buildings than it was in schools where principals appeared to be less engaged with the innovation and its use.

Stallings & Mohlman (1981) who were also studying the implementation of a specific program (Effective Use of Time Program) found that in schools with more supportive principals, more teachers implemented the training program. In this study, principals were rated as supportive when they were perceived: (1) to go out of their way to help teachers; (2) to be constructive in their criticism and to explain reasons for suggesting change in behavior; (3) to

share new ideas; (4) to set good examples by being on time and staying late; (5) to be well prepared; and (6) to care for the personal welfare of the teachers.

Little (1980) who was studying urban schools with above average achievement test scores found that successful schools had principals that support collegiality and experimentation among teachers. These successful principals used such actions as announcing expectations, modeling or enacting desired behaviors, rewarding appropriate behaviors, and defending or protecting teachers in their efforts to work together and experiment.

These recent studies are offering much needed insight into the activities of principals. However, they tend to focus on a general level and do not provide the level of specificity needed by practitioners for planning and implementing change. The Principal-Teacher Interaction (PTI) Study being conducted by the Concerns-Based Adoption Model (CBAM) Project at the Research and Development Center for Teacher Education at the University of Texas at Austin was designed to provide that specificity.

Principal-Teacher Interaction Study

The PTI study is a study of principals and teachers as they are involved in school change or improvement efforts. The goal is development of a more complete understanding about this phenomenon. Specifically, the study examines principals as change facilitators--their personal and role characteristics and their intervention behaviors, with pre- and post-intervention evaluation of the effects of their interventions on teachers. One unique strength of this research is the use of CBAM tools that exist for measuring change at the individual level. Initial assessments can be made using the CBAM diagnostic tools; post intervention effects can be evaluated by

use of the same measures employed in the pre-intervention diagnoses, thus, multiple uses can be made of the same data.

Study Design

The PTI study focuses on a set of elementary school principals and their teachers as they are involved in implementing new instructional practices. Three districts were selected based on whether their schools were in their first, second or third year of implementation as of September, 1980. In each district three schools, providing a total of 9 schools, were selected based on the leadership characteristics of their principal. The principals were identified by district administrators as demonstrating one of three hypothesized leadership styles based on concerns (See Appendix A). All teachers who were potential users of the innovation were asked to participate.

Study Questions

The PTI study focuses on three primary questions:

1. What do principals do as change facilitators?
2. How do the concerns of principals affect their functioning as change facilitators?
3. What is the relationship between administrator concerns, the interventions they make and their effects on teachers?

This paper includes examples related to Question 1 and Question 3.

Two Intervention Frameworks

The study of the principals involved in-depth documentation of their interactions with their teachers. Two analytical frameworks, the Taxonomy of Interventions and the Anatomy of Interventions were used to focus the documentation and subsequently to analyze the data. These two frameworks are briefly reviewed.

Taxonomy of Interventions

This conceptualization of interventions was developed out of several prior studies of implementation. The majority of the data for the taxonomy building was collected from a junior high school study (Analysis of Change Agent Interventions in a Two-Year Innovation Implementation Effort in One Junior High School, 1979); however, ethnographic data from an elementary school study (Making Change Happen: A Case Study of School District Implementation, 1980) was also an important source. The analysis and synthesis of these data resulted in the identification of "levels" of interventions. The levels convey a sense of the size, magnitude or degree of impact of the interventions. The levels are hierarchical, tending to range from the more global or general to the more specific and concrete (Hall, Zigarmi & Hord, 1979; Hord & Hall, 1982).

The broadest level is that of policy, followed in descending order by game plan, strategy, tactic, and incident. Incident interventions are small in terms of duration and the number of individuals involved. An incident is the smallest intervention unit.

> An incident is an interaction that occurs between individuals (e.g., a short interaction between the change facilitator and a teacher) or may be the delivery of a single action or event to many individuals at the same time (e.g., a memo from a change facilitator to all teachers) (Hall, Zigarmi & Hord, 1979, P. 13).

Initially this paper will focus on the analysis of incident interventions made by principals. In the effects section there will be a consideration of tactic and strategy level interventions. Additional information about the levels of the Taxonomy may be found in Hall, Zigarmi & Hord, (1979) and Hord & Hall (1982).

Anatomy of Interventions

The second intervention framework makes it possible to examine each individual incident level intervention in terms of its internal parts. This system which describes and codes common properties of each intervention is based on seven dimensions:

Sublevels -- degree of complexity of the action

Sources -- person(s) who act or events that occur to influence use of the innovation

Targets -- person(s)/process toward whom the intervention is directed.

Functions -- the purpose(s) of the intervention

Medium -- the mode or form of action between the Source and Target

Flow -- the direction of the action

Location -- where the intervention takes place (Hord, Hall, & Zigarmi, 1980, p. 7).

Within each dimension, categories or "kinds" specify possible variations of the general dimension. That is, under sources the "kinds" would include clients, individual users, all users as a group, district decision makers, etc. Definitions, examples and further information about the Anatomy may be found in Hord, Hall & Zigarmi (1980). The kinds of each of the seven dimensions of each principal's incident level interventions were analyzed and coded using this Anatomy schema. Please see Hord & Hall (1982) for a fuller explication of the procedure.

The findings in this paper present the results of the first data analysis of incident level interventions from the Principal-Teacher Interaction Study. The extensive data base from this study is expected to be further analyzed in subsequent steps. In-depth school by school case studies will be developed to reveal detailed and more elegant analyses of each principal's interventions

(Stiegelbauer, Goldstein, & Huling, 1982). In contrast, this paper will present frequency data from preliminary analyses of principals' interventions which have been grouped by year into implementation. Three school principals in a California district were in the first year of implementing a writing composition program and three principals in a Florida district were in the second year of the implementation of a mathematics curriculum. Three Colorado site principals in the third year of a science program implementation will be the subject of later analysis and reports. Thus, year one and year two principals' data is the focus of this report.

For purposes of this paper only those interventions which included the principals as a source of the intervention are reported; although, frequently persons such as assistant principal, resource teachers or other persons in change facilitator roles were reported as sources in the interventions. Frequencies of the targets, functions, medium and flow of the principals' interventions will be presented and discussed.

What Principals Do At The Level Of Practice

At this time the data base contains more than 2,000 interventions. Information about these interventions was collected from various individuals in the school and the school district. Each principal/school was paired with one R&D Center researcher who was responsible for all data collection at that site. Of the interventions documented, 1869 (87.1%) are incident level; 606 of these interventions involved the principal as a source (the person who initiates the action of the intervention). Of this number, 327 interventions were made by the California and Florida principals, the focus of this paper. In more than 95% of these cases, the principal was identified as the first coded source. That is, the coding schema allows for multiple codings of

dimensions (especially function, source and target) to accommodate for the complexity of the actions. Therefore, the source of the intervention could be coded as principal, principal and assistant principal, principal and resource teacher etc. However, the principal was identified as the most significant source by being named first in over 95% of the interventions selected for analysis.

Principals do a great deal; some do more than others. Table 1 provides frequencies of interventions for principals by district/year into implementation. There is a range among year one principals of 27 to 96 interventions; across year two the range is 28-65. The percentage of year one principals' interventions out of the total is 56% while year two principals have 44% -- not a striking difference. Probably the most telling characteristic of these data is the lack of a notable difference in the number of interventions performed in year one contrasted with year two. "It's not all done by the end of year one," as one researcher was heard to observe.

And indeed it wasn't. The princpal of school F opined, at the end of year one, that the math program was in hand and didn't require further attention. His position changed after receiving study-collected Stages of Concern data (Hall & Rutherford, 1976) and Levels of Use data (Hall, Loucks, Rutherford & Newlove, 1975). These measures describe teachers' concerns and use of new programs during implementation. These data indicated that implementation was not at a point to be "left on its own." The principal then set in motion a series of creative interventions to help teachers further with implementing the math program. One of these interventions was the reassignment of a fourth grade classroom teacher as a school-wide math resource teacher who would be on call and expected to be working in a broad supportive and facilitative role with teachers. Her students were

Table 1

Total Number of Incident Interventions
with Principal as a Source

District/Implementation Year	School Site	Number of Interventions	% of District	% of Total
California/Year One	A	60	32.8	
	B	96	52.5	
	C	27	14.8	55.96
Florida/Year Two	D	65	45.1	
	E	28	19.4	
	F	51	35.4	44.03
Total		327		99.99

redistributed among other fourth grade teachers. This intervention was followed by a host of others.

Another second year principal, at school D, received CBAM Innovation Configuration data (Hall & Loucks, 1981) and was soundly reinforced in her belief that a significant component of the math program was not implemented. Across the second year she and her administrative/facilitator team delivered a series of strategies, tactics and incidents to facilitate the implementation of the unused materials. All of these activities resulted in greatly increased materials use (Huling, Hall & Hord, 1982) and contributed to the 65 incident interventions in which the principal was involved (Table 1).

Meanwhile, the first year principals who showed a wider range of numbers of interventions, 27-96, were engaged in supporting implementation of the writing curriculum. This wide range across school A, school B and school C is most likely explained by the three facilitating styles of principals, proposed in a paper by Hall, Rutherford and Griffin (1982). The "initiator" principal had the largest number of interventions and the "responder" principal had the smallest number of identified interventions.

To learn more about what principals do, the set of interventions characterized by their coded dimensions will next be examined in terms of targets, functions, medium and mode of the principals. The data are grouped for year one and year two principals.

Targets of Principal's Interventions

The major differences in the targets of year one and year two principals are in targets 5, 6 and 8 (see Table 2). The year one California site principals targeted interventions more often at implementation site resource people (13.7%) than did the Florida principals, (2.8%). The California target 5 frequency may be explained by one of the principals who had a great deal of

interaction with the school's resource teacher who was identified as a facilitator to help teachers with the new writing program. The principal directed this resource teacher in her work with teachers and also delegated a great deal of responsibility to her in her facilitating role. The Florida schools had some on-site resource teachers but they did not appear to receive as much "direction" from their principals.

Activities with assistant principals accounted for 16.7% of the Florida principals' targets, whereas there are no interventions targeted at AP's in California. The percentage of these interventions targeted at the AP's, implementation site decision makers (target 6), might be explained by the fact that each of the Florida schools had an assistant principal while the California schools had none. However, the resource teacher in the California school discussed above carried a role and responsibility on a par with assistant principals. In Florida the assistant principals had in the recent past carried the title of curriculum assistant and had responsibilities for helping teachers with new programs. The principals generally monitored the activities of the assistant principals, obtaining status reports from them about matters that had been planned. At other times the principals directed the AP through interventions on the AP's themselves.

Another difference in targets is that of target 8, immediate user system people. The higher percentage in Florida (11.8%) may be attributed to area math resource persons who train and help facilitate on request of the principal. It appeared that the norm for securing the aid of the area resource person was this: teachers asked their principal for assistance, the principal then telephoned the math coordinator, the coordinator came and responded to teachers. The district's policy of the principal calling for the coordinator to schedule assistance may account for the higher percentage of

Table 2

Targets of Principals' Incident Interventions
(Percent of Total Principal Interventions)

Targets		District/Implemenation Year	
		California/Year One	Florida/Year Two
1	Clients	2.7%	C.0%
2	An individual user	14.8	11.8
3	Subset(s) of primary or potential users	19.7	14.6
4	All primary/potential users	3i.7	31.9
5	Implementation site resource people	13.7	2.8
6	Implementation site decision makers	0.0	16.7
7	Innovation facilitators	2.7	3.5
8	Immediate user system members	3.3	11.8
9	Extended user system members	3.8	.7
10	The change effort/ process	4.4	4.2
11	Blank (specify)	3.3	2.1
		100.0%	100.0%
		(n=183)	(n=144)

immediate user system targets in the Florida schools. On the other hand, it is possible that consultants provided by the district are likely to be used more in the second year of implementation.

The remainder of the targets seem quite similar across the two years except for the California principals targeting the extended user system members. While the percentages are small, the California frequency is five times that of Florida. This is apparently due to one principal involving parents (classified as extended user system members) in the school's support of implementation.

Some of the similarities in the target distributions for each of the sites are also of interest. Although one district was in the first year of implementation and the other second, there are approximately the same proportions of occurrence of individual, subgroup and all teachers as a group as the target of principal interventions. It is curious that year two teachers, who would be expected to be more differentiated in their use, were treated as though they were more alike. Theory would suggest that interventions in the second year would be targeted more to accommodate individual differences in teacher use, but this does not seem to be the case in these data.

Functions of Principals' Interventions

Somewhat surprising is the large difference between year one and year two interventions with function 1, supportive or organizational arrangements and resources: California, 32%; Florida, 54% (Table 3). The traditional role of the principal is to handle such things as space, materials, staffing, scheduling and indeed these percentages exhibit those typical behaviors. However, one might speculate that most of those kinds of activities would have been accommodated in year one and therefore decrease in year two -- not so.

In data analyzed from a pilot study done prior to the Principal-Teacher Interaction Study, the contrast of a year one principal and year two principal indicated a similar weighting to function 1 interventions by the year two principal (Hord, 1981). Is there more arranging and organizing to be done in year two?

The larger percentage in Florida may also be explained by the fact that the new math program was implemented without benefit of prior field testing. There was much attention to the needs for materials and testing revision during year one of implementation. Thus, at the beginning of year two there was a great deal of focus by principals on acquiring materials expected to have been revised.

Another factor that could contribute to the heavy use of function 1 interventions in Florida was the relationship of the area math resource coordinators with the schools. The district norms somewhat precluded coordinators from initiating a great deal of action with the schools. As already described, requests came to the principal and they called the coordinators for scheduling which would be coded under function 1.

Function 2, training, interventions were relatively few in both groups of principals, 2.7% year one principals, 3.5% year two principals. This is not surprising when considering the traditional role and activities assumed by principals. Typically, they do not see training as a function of principaling. When they express themselves on this point, their remarks are such as, "My teachers are professionals . . . I leave it in their capable hands." Frequently the principal identifies the content or subject matter specialist/staff developer as the person responsible for helping teachers develop new understandings and skills. Interestingly, one of the Florida study principals was very active in the training function for another

Table 3

Functions of Principals' Incident Interventions
(Percent of Total Principal Interventions)

Functions		District/Implementation Year	
		California/Year One	Florida/Year Two
1	Developing supportive or organizational arrangements & resources	32.2%	54.2%
2	Training	2.7	3.5
3	Consulting & reinforcing	24.6	18.1
4	Monitoring & evaluating	21.3	19.4
5	Communicating externally	3.8	.7
6	Disseminating	1.1	0.0
7	Impeding use	0.0	0.0
8	Expressing & responding to concerns	8.7	4.2
9	Blank (specify)	.5	0.0
		100.0%	100.0%
		(n=183)	(n=144)

innovation being implemented in his school at the same time. These interventions are not included in Table 3 because they were employed for the other innovation (not the one under study by PTI). Nearly every week he held a one hour faculty training session, using the trainer's guide and leading the activities himself. This innovation was one which he personally valued and in which he invested his energies and clout in persuading teachers to adopt. It was a school decision to implement this program, whereas math (the Florida study innovation) was mandated for all schools by central office administrators.

Communicating externally, function 5, occurred more often in year one as did expressing and responding to concerns, function 8. There appears to have been more concern about feelings (function 8) in the year one interventions. This may be more a function of principals' styles than year of implementation, as the Florida principals seemed to be more task focused and less caught up in reprimanding or complimenting as an intervention function. Year one principals, more frequently than year two principals, intervened with function 3, helping teachers solve problems with initial use. It seems logical that teachers would need more help from facilitators during the first year; the principals in year one spent nearly one-fourth of their interventions in this function.

Medium of Principals' Interventions

In terms of the medium used by the year one and year two principals, there are no real differences between the groups. Data in Table 4 indicate more similarities between the years than differences. Face to face is the way more than 3/4 of the interventions in both groups were delivered. However, there does seem to be somewhat more use of the telephone in Florida. Until

the data are analyzed further, there is uncertainty about how to explain this difference.

Flow of Principals' Interventions

There is clearly a difference in the two groups of principals' interventions flow--that is, interactive contrasted with one way (Table 5). Second year principals used interactive flow three times more frequently while the first year data indicate a 50-50 split. Year one implementation may require more directiveness. In the sample, one California principal was more direct and to some extent his style may be distorting the balance represented by the others. Since there was a high percentage of interventions from this principal in the data, the difference in the data of the two groups may be a function of this principal's style. Further analyses and looking at these data by individual principal will confirm or deny this speculation. More sophisticated and in-depth analyses will provide more specific insight into the intervening activities of the principals.

What Have We Learned from Intervention Analyses

Looking across all the data, and including the researchers' clinical impressions, it is possible to offer some generalizations about the modus operandi of principals and what they do at the level of practice during the process of change.

1. Principals tend more often to deliver the same interventions to all teachers rather than individualize the intervention. They do not model a response to the theory of individual differences with regard to teachers, though they comment a great deal on attending to individual differences in

Table 4

Medium of Principals' Incident Interventions
(Percent of Total Principal Interventions)

Medium	District/Implementation Year: California/Year One	Florida/Year Two
1 Face to face	78.7%	80.6%
2 Written	15.8	10.4
3 Audio visual	.5	.7
4 Telephone	3.8	7.6
5 Public media	0.0	0.0
6 None	.5	.7
7 Blank (specify)	.5	0.0
	100.0%	100.0%
	(n=183)	(n=144)

Table 5

Flow of Principals' Incident Interventions
(Percent of Total Principal Interventions)

Flow	District/Implementation Year: California/Year One	Florida/Year Two
1 One way	48.1%	24.3%
2 Interactive	51.4	74.3
3 Blank (specify)	.5	1.4
	100.0% (n=183)	100.0% (n=144)

students. Interventions were targeted to all users more than twice as often as to individual users.

2. Principals don't target very many of their interventions outside of the faculty, that is, toward parents or other community agents. Apparently, new program implementation is not a typical topic of interaction with others outside the school.

3. A large proportion of principals' interventions are managerial, i.e., function 1, developing supportive and organizational arrangements. Principals tend to act more in their traditional role as "manager" than in an instructional leadership role.

4. Another traditional activity of the principal is monitoring and evaluation. In both year one and year two principals, this function accounted for 20% of all the interventions they made.

5. Although the current literature consistently emphasizes the importance of the principal as the instructional leader of the school, the data indicate that interventions exemplifying this role do not account for many of the principals innovation related activities. Function 2, training, in combination with function 3, consultation, only account for 1/5 to 1/4 of the principals' behaviors, in years two and one respectively. The literature about what should be and the reality of what is do not presently have a clear match.

6. Principals do their intervening face-to-face in large groups, small groups or individually. The face-to-face mode was employed in 80% of their interventions.

7. From the researchers' qualitative data and impressions, the flow of principals' interventions may be a function of the principals' style. Although the quantitative data show more one way actions in year one, no

generalization can be made about the directional flow of principal interventions.

8. An interesting finding is that principals do more than they think they do. In early conversations before the study began, principals suggested that they may not have much to offer to the study because they "didn't do that much." However, in end of study debriefings with principals, they said that being involved in the study caused them to reflect on what they did and made them realize how much they did to support the implementation of new programs. In addition, the researchers were constantly unearthing interventions that principals made that they didn't see as being important.

9. Principals do more than teachers think they do, or more than teachers remember that they do. In four face-to-face interviews with teachers during the year of data collection they were asked to recall any actions or interventions done by principals. Though teachers generally viewed the principals as being available, helpful and supportive, they did not often remember many of the things the principal did. Interestingly, often the incident interventions that they did recall were ones that principals had discounted as being important.

But, most importantly --

10. <u>One year won't do it for implementation</u>, if the innovation is complex or requires much change in teacher practice. It is clear from the data of second year principals that support and facilitation for teachers continued throughout the second year of implementation with little decrease in activity by the principals. There is a reality that change is a process requiring much time and effort; there is still a good deal to be done in the second year of implementing a new program. This is the most compelling statement to be made by these frequency data. Principals must recognize that

their role as change facilitator does not come to an end after just one year. Because there is a lot to be done in year one, two and more, it appears that the principal who perceives all that should be done for implementation requires a key assistant to help. We are noting that principals who do not have assistant principals or others to fill this role will annoint an individual with authority and use this lieutenant in a crafty way to support school improvement efforts. It appears that the principal may use others in a "team" or "support group" kind of way; thus, all activities may not require the principal as the sole actor in implementation. This is an area for further investigation.

Interventions and Their Effects

In this section, several examples of interventions will be described along with a discussion of their effects on teachers. The specific examples included were selected for several reasons. One reason is that these examples clearly demonstrate that principals can and do make a difference in terms of affecting teachers and their use of an instructional innovation. Also, one example demonstrates how a principal used various data sources available to help plan interventions, and another example shows how another principal used input from teachers in order to arrange for effective inservice.

In the Principal-Teacher Interaction Study, interventions are organized or mapped by site in a manner that demonstrates how related incidents build to a tactic, and how tactics sometime combine to make a strategy. This mapping procedure is a useful tool in organizing the numerous interventions in a logical manner that reflects how the principal functions in various areas as a change facilitator.

Incident Level Interventions

In order to demonstrate the effects of an incident level intervention the examples of a principal making a classroom observation will be used to show how three principals intervened differently, leading to different effects on teachers. The principal observing a teacher is classified as an incident. If the principal gives the teacher feedback, this act becomes another incident. It is this set of incidents related to teacher feedback that we wish to discuss first.

No Suggestions

One principal who admitted to us that he was uncomfortable doing classroom observations observed one of his teachers teaching the district's

science curriculum and found everything to be to his satisfaction. After the observation, he told the teacher that he thought everything went well and that he had no suggestions for improvement. When questioned about the observation several months later, the teacher first told us that she had not been observed by the principal. When questioned further, she said that she wasn't sure if she had been observed, but that if she had, everything must have been fine. In this instance, the principal chose a feedback intervention that was not very powerful; the teacher was affected very little or not at all. The principal's intervention may have been appropriate, but on the other hand, the principal may have missed an opportunity to help this teacher improve her use of the innovation. If, in fact, everything was operating exactly as it should have been, perhaps the principal should have made more ado of praising and reinforcing the teacher for the outstanding job she was doing.

Identifying Weaknesses

Another principal in the same district made a habit of observing his teachers, using the component checklist that had been devised for the innovation, the science curriculum. After he observed a teacher, he would use the checklist as a guide for the discussion in the feedback session following the observation. By using the checklist, the principal would comment both on the teacher's strengths and weaknesses and would encourage the teacher to work to improve the weaker areas. The teachers in this school were fairly consistent in what they reported to us about the principal's observation. Generally, each teacher would say that the principal observed the class and completed a checklist as he observed. Then the two of them discussed the checklist and talked about areas that needed improvement. The teacher would describe to us the areas that they discussed as needing improvement and could generally give examples of how he or she tried to improve one or more of these

areas. In this instance, the principal chose to use a structured format in providing each teacher with feedback and in most cases, the teacher responded to the feedback by attempting to improve his or her teaching.

Planning for Improvement

Another principal in another district which is implementing a writing composition program observed his teachers regularly and for extended periods of time. During each observation the principal checked to see if all parts of the innovation were being used and observed the teaching style and techniques being used by the teacher. After each observation, he provided the teacher with written feedback. After the teacher had had the opportunity to read the principal's comments, the two of them met to discuss the observation and talked about areas that needed improvement and ways that this improvement could occur. The principal then asked the teacher to provide him with specific written plans on changes that he or she intended to make. The principal then used what the teacher had provided him as a guide during the next observation to measure how much progress the teacher had made.

By selecting this particular feedback procedure, this principal made sure that his teachers knew exactly what was expected of them. In short, the principal "demanded" improvement. He had a positive relationship with his faculty members, but everyone on the faculty knew and accepted that at this school they were expected to constantly strive for improvement and to teach in ways that were consistent with the school (i.e. the principal's philosophy). The combined effects of this principal's interventions on teachers were that teachers in the school knew what was expected of them, they were given assistance by the principal in planning for improvement, and they worked extra hard to deliver what was agreed that was needed.

These three examples of alternative ways of observing and providing feedback demonstrate that the principal does have a choice in how he intervenes and that different interventions will result in different effects on teachers. In the first example, the teacher was affected very little. In the second example, the teacher became aware of what areas needed improvement, but was more or less left on his own to find ways of improving. In the third example, the teacher was given assistance in planning for improvement and actually made an individual commitment to take specific actions toward this end. These examples are also indicative of the three hypothesized change facilitator styles being proposed by the CBAM project (Appendix A). The principal described first is representative of a responder style while the second and third principals represent manager and initiator styles, respectively.

A Complex Tactic

A more complex example of the importance of the principal's interventions can be illustrated by describing how one study school came to have a special workshop. This school was in its first full year of implementing a writing composition program. The resources, district policies and workshops sponsored by the district all emphasized the importance of students writing daily and writing in all of the "domains."

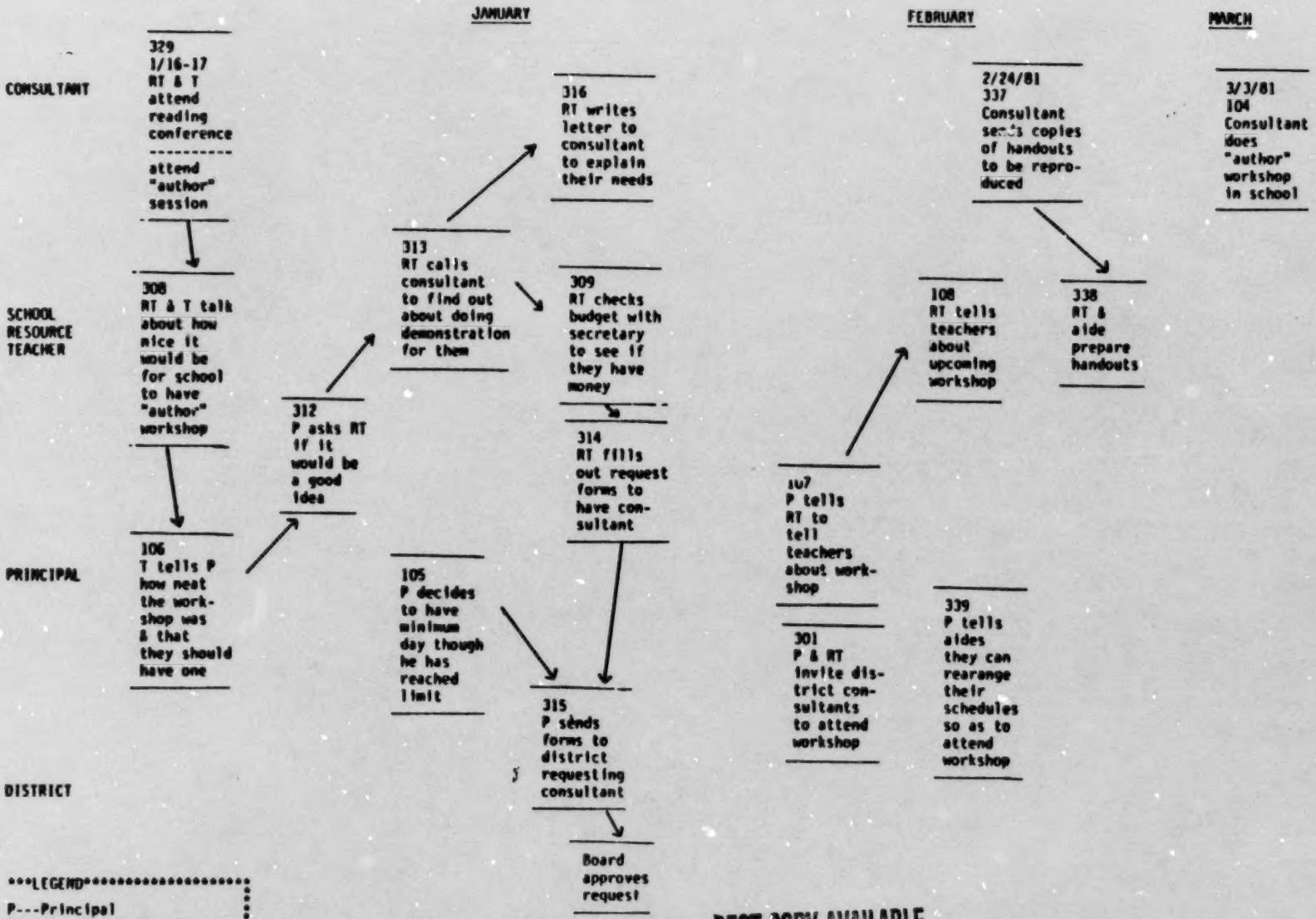
The school resource teacher and a sixth grade teacher attended a reading conference at a nearby college. At that conference they attended a session in which the presenter described how students could write and publish their own books. The two teachers were very excited about the presentation and discussed how beneficial it would be if the presenter could come to their school and conduct the same workshop.

They went to the principal and a whole set of incident interventions unfolded resulting in a special "author" workshop in the school six weeks later. The map of incident interventions that have been identified are presented as Figure 1. In total they represent one complex tactic intervention. Some of the incident interventions can be used to illustrate the role and influences that this "initiator" principal carried out.

In intervention No. 308 the first request to have this workshop came to the principal from the sixth grade teacher who had attended the reading conference. Rather than making an immediate decision, the principal checked with the resource teacher to see what she thought about the idea (intervention No. 312). He then charged the resource teacher with exploring what would be needed for the consultant and checking to see if the school budget could afford a consultant. Note that the principal allowed the school resource teacher to enter into negotiations with an unknown consultant and to review school budgets.

In interventions No. 314 and 315 the principal got back in the action to approach the district for approval to have the workshop. The school had already had its quota of early dismissal days for the school year. However, the principal did not think that the teachers should have to come in on a Saturday or have to stay after school for the workshop, so he requested the workshop be conducted by having an early dismissal day for students. When we asked the resource teacher how the princpal was able to accomplish this breach of policies, she reported, "He just did it. I don't know how he did it." From an interview with the principal it was revealed that he had calculated that no one would be watching a routine request that closely, so he just sent it through regular channels with the predicted result, the board approved it.

Figure 1:
Complex Tactic: School Has Special Consultant-Lead Workshop


JANUARY
FEBRUARY
MARCH
CONSULTANT
SCHOOL RESOURCE TEACHER
PRINCIPAL
DISTRICT
329 1/16-17 RT & T attend reading conference
attend "author" session
308 RT & T talk about how nice it would be for school to have "author" workshop
106 T tells P how neat the workshop was & that they should have one
312 P asks RT if it would be a good idea
313 RT calls consultant to find out about doing demonstration for them
316 RT writes letter to consultant to explain their needs
309 RT checks budget with secretary to see if they have money
314 RT fills out request forms to have consultant
105 P decides to have minimum day though he has reached limit
315 P sends forms to district requesting consultant
Board approves request
107 P tells RT to tell teachers about workshop
301 P & RT invite district consultants to attend workshop
2/24/81 337 Consultant sends copies of handouts to be reproduced
108 RT tells teachers about upcoming workshop
338 RT & aide prepare handouts
339 P tells aides they can rearange their schedules so as to attend workshop
3/3/81 104 Consultant does "author" workshop in school
LEGEND
P---Principal
RT--School Resource Teacher
T--Teacher(s)

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The action was shifted back to the school resource teacher to tell teachers about the workshop and to prepare for it. District persons were invited to attend and the principal told the aides that they could rearrange their schedules so that they could attend the workshop on paid time. This intervention (No. 339) was interesting in that the principal was typically adamant about getting a day's work for a day's pay. The implication is that the principal believed that supporting the aides' attendance and encouraging collegiality between all members of the staff was a better investment than requiring aides to do their regular work during those hours.

The author workshop was considered a big success in that all of the participants found it useful and several teachers immediately tried ideas that the consultant suggested. Shortly after the workshop, the principal excitedly reported to us that the workshop was "fantastic."

In this one complex tactic a series of incidents have been identified that illustrate the crucial facilitating role that principals can take. This principal supported the idea of a special workshop that was first suggested by a teacher. The principal "bent" regulations in order to provide the most optimal conditions for conducting the workshop. The principal left major responsibility for consultant negotiations and preparation to the school resource teacher, but there were constant "check backs" to him built into the process. The principal also saw to it that all staff and key district people knew about and were encouraged to attend the workshop.

Strategy Examples

In these two strategy examples the principal directs his energy and attention, and that of the assistant principal and resource teacher, toward one component of a new math curriculum. The strategies extended in time

across the entire second school year of implementation and in one way or another impacted all teachers.

The situation. In a school system characterized by a great deal of pupil transfer within the district, a mathematics curriculum was developed and adopted. This curriculum provides a consistent program of mathematics instruction for pupils in all grades and consists of program objectives, a textbook and instructional materials including a Supplemental Kit, testing materials and record keeping procedures. At the close of the first year of using the new program, teachers, while commenting that using the new program was difficult, were satisifed that the curriculum was a good one for children and looked forward to next year being easier.

The stimulation. As part of their participation in the research study, teachers had agreed to permit data gathered in the study about them to be shared with the principal. Therefore, baseline data that were collected at the end of their first year of implementation were organized into a report and sent to the principal. The report contained information about the teachers' configuration of the math program, in addition to their Stages of Concern and Levels of Use. These data were obtained from use of three CBAM assessment tools, Innovation Configuration, Stages of Concern Questionnaire and Levels of Use (Hord & Rutherford, 1981). In addition, a general feedback letter was to be sent as a brief report to teachers after each data collection point. The first teacher feedback letter was received in the following September and summarized the teachers' implementation of the program at the close of the first year of use in May.

This letter reported for one thing, that many teachers felt the Supplemental Kits required a great deal of preparatory work before they could be used, and they were useful only with a few children at a time. However,

many described some intentions to try to incorporate more use of the kits next year. When the principal read this letter, he brought it to the attention of the assistant principal and resource teacher and asked them to study the letter and be ready to discuss what might be done to help teachers.

Several days later, the report of CBAM assessment data collected from teachers in May was received by the principal. Again, the principal met with the assistant principal, gave him the data to study and asked him to prepare to discuss it.

The strategies. It was quite clear to the three school administrators (principal, assistant principal, resource teacher) from reading the teachers' feedback letter and examining the CBAM data that teachers were generally not using the Supplemental Kits (see Table 6). The principal reasoned that the first year of implementation had been devoted to implementing the text and objectives and the management system (tests and record keeping), all of which "were quite enough for teachers to handle in one year." Thus, the second year emphasis would be focused on the kits, an important instructional resource since they contained materials for use with program objectives not contained in the textbook.

The principal focused the administrative team's attention on encouraging and reinforcing teachers' use of the kits. As a result of two meetings to consider the use of kits, two general strategies (see Figure 2) were identified:

Strategy A: Teachers are supported in preparing their kits for use.

Strategy B: Teachers are provided with training in use of the kits.

It is very difficult to determine precisely which person of the three member team generated the various interventions which were carried out. In reporting the interventions to the researcher, the administrators typically

gave the credit for creating the interventions to their team mates. This is a highly interactive team, so this behavior is understandable, though it makes it difficult to be certain about when an idea was being initiated by the principal. What was entirely clear was that the principal pushed his team to come up with ideas and was always looked to for approval. The principal very frequently delegated activities but only after they were fully discussed and clearly understood. His expectations were clearly explicated and he followed up delegation with monitoring activities, keeping his fingers on the pulse and staying informed about what the assistant principal and resource teacher were doing. A consensus of all persons in the school was that the principal knew "what was going on in the school." In order to operationalize the two strategies the principal's team employed a number of tactics at various periods across the second implementation year (see Figure 2).

Strategy A responded to the condition in which the kits were delivered to teachers: in need of cutting, sorting, laminating, organizing and ordering. In short, when teachers received the kits, they were not ready to be used. The first tactic, A.I., engaging parents, was an effort to make the kits ready for teachers' use without further overloading the teachers at the beginning of the school year. Under Tactic A.I., note that a number of incidents related to this tactic are included. These are examples of incidents which typically occurred around a tactic and are included here for illustrative purposes. Incidents related to other tactics are omitted from the figure for the purpose of brevity--and to focus attention on the strategy/tactic level interventions. Tactic A.I. was employed from early September to late October and resulted in kits being made ready for use by some of the teachers. As kits became ready in late October, Tactic A.II. was engaged. This intervention was an undertaking which resulted in "flagging" significant activities in the kit

Table 6

Extent of Use of Supplemental Kits
by Original Sample of Teachers

Spring 1980		Spring 1981
8	Not using	3
6	Uses a little/some/few items	2
2	Uses 25% of time	1
1	Uses a great deal	11

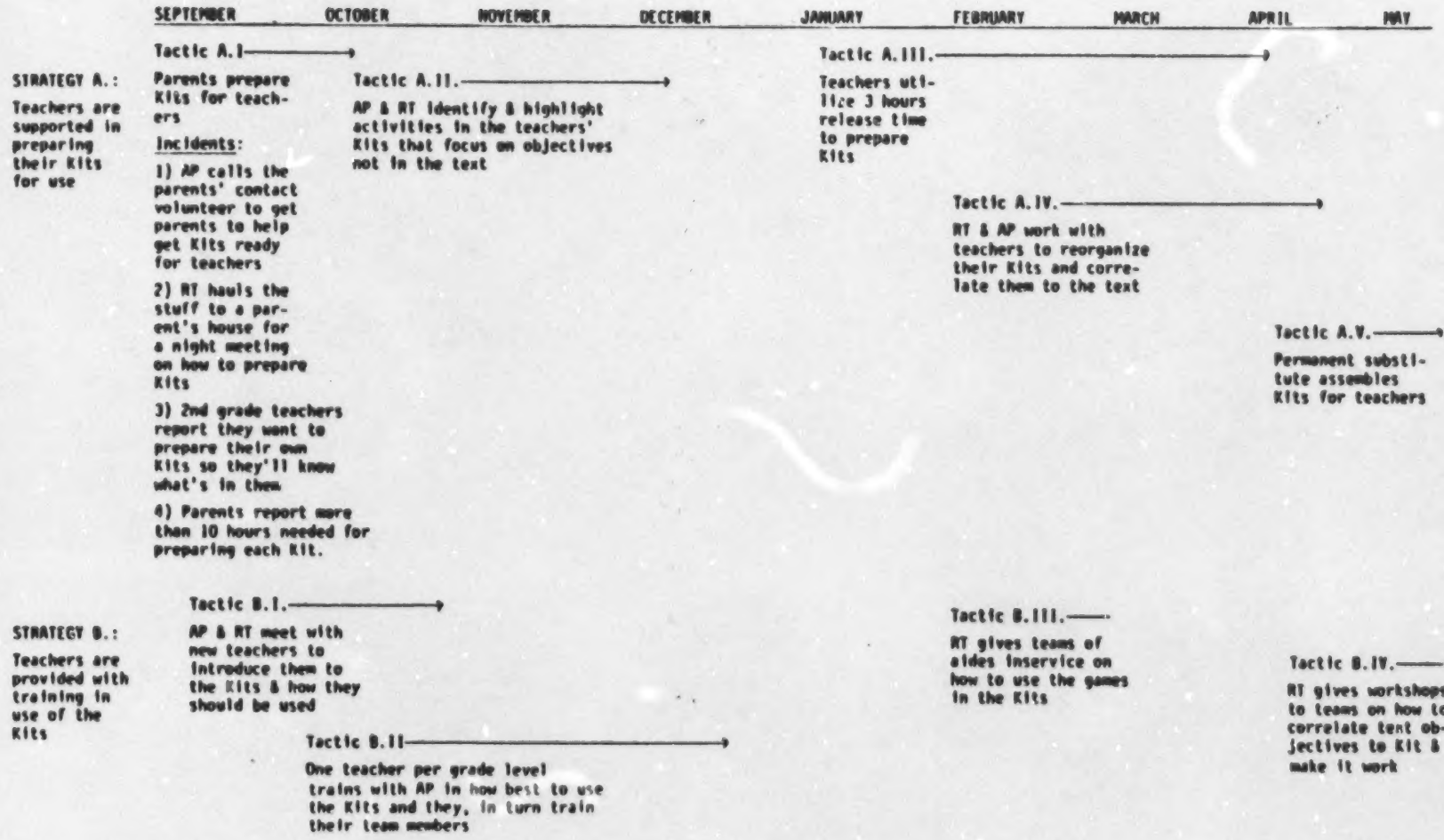
Extent of Use of Supplemental Kits
By Sample of New Teachers*
Added in Fall 1980

Spring 1980		Spring 1981
7	Not using	2
	Uses a little/some/few items	1
	Uses 25% of time	
	Uses a great deal	4

*Teachers new to the school and math in fall of 1980, thus, they were all unfamiliar with, and not using, kits.

Figure 2

Strategy/Tactics Time Line, Year 2


SEPTEMBER
OCTOBER
NOVEMBER
DECEMBER
JANUARY
FEBRUARY
MARCH
APRIL
MAY
Tactic A.I
STRATEGY A.:
Teachers are supported in preparing their Kits for use
Parents prepare Kits for teachers
Incidents:
1) AP calls the parents' contact volunteer to get parents to help get Kits ready for teachers
2) RT hauls the stuff to a parent's house for a night meeting on how to prepare Kits
3) 2nd grade teachers report they want to prepare their own Kits so they'll know what's in them
4) Parents report more than 10 hours needed for preparing each Kit.
Tactic A.II.
AP & RT identify & highlight activities in the teachers' Kits that focus on objectives not in the text
Tactic A.III.
Teachers utilize 3 hours release time to prepare Kits
Tactic A.IV.
RT & AP work with teachers to reorganize their Kits and correlate them to the text
Tactic A.V.
Permanent substitute assembles Kits for teachers
Tactic B.I.
STRATEGY B.:
Teachers are provided with training in use of the Kits
AP & RT meet with new teachers to introduce them to the Kits & how they should be used
Tactic B.II
One teacher per grade level trains with AP in how best to use the Kits and they, in turn train their team members
Tactic B.III.
RT gives teams of aides inservice on how to use the games in the Kits
Tactic B.IV.
RT gives workshops to teams on how to correlate tent objectives to Kit & make it work

LEGEND
AP--Assistant Principal
RT--School Resource Teacher

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that provided instructional material for curriculum objectives not covered by the textbook. This was a complex endeavor, affecting all teachers at all grade levels.

Because a number of teachers wanted to prepare their own kits in order to learn about the contents, Tactic A.III. was planned by the principal. This intervention provided a three hour block of release time (from classroom duties) so teachers could work on their kits. The principal sent a memo announcing the availability of this time; teachers responded and the permanent subsitute's schedule was arranged to provide the requested release time.

Tactic A.IV. entailed having the resource teacher and assistant principal work with teachers to organize the kit materials and correlate them with the program and textbook objectives. This idea originated from one of the teachers in the building and was endorsed and encouraged by the principal. As the school year was approaching its end, a final effort at getting the kits ready for teachers use was made by arranging for the permanent substitute to assemble kits when he was not otherwise engaged in teaching for absent faculty.

Strategy B accompanied Strategy A so that teachers could be trained in using the kits which were being prepared. For example, each new teacher met with the assistant principal or resource teacher to be introduced to the kit in an awareness or overview session. This was Tactic B.I. At a different level of training, Tactic B.II. employed the assistant principal as a trainer. He would train one teacher from each grade level team, who would serve as a "turn key" trainer and teach the remaining members of the team. For this intervention to work, a number of other things had to happen: the principal announced the plan, each teaching team identified a person to be trained, the assistant principal had to learn the contents and instructional techniques of

the box for each grade level, the teachers-to-be-trained were scheduled, and the permanent substitute had to arrange time to release each of the teachers. All of these incident level interventions contributed to the enactment of Tactic B.II. This tactic spread across the fall semester.

Beginning in early February the resource teacher was encouraged to provide training to the teachers' aides. This she did through leading inservice sessions on how to use the games in the kit. Tactic B.III. was designed to promote more kit exposure to teachers in the classrooms.

In May, the idea of correlating the text and program objectives with the kit was revisited in Tactic B.IV. This tactic focused on teaching teachers how to integrate these sources for instruction, as contrasted with Tactic A.IV which focused on making the materials more manageable.

Teachers volunteered many comments about the principal's emphasis on the kits during the second year. It was clear that everyone recognized that use of the kits was a priority goal of the principal, who consistently promoted their use in many ways across time. As one teacher succinctly put it, "Due to extra emphasis on kits this year, we're using them more." And indeed they were. Contrasting the data (in Table 6) of Spring 1980 with Spring 1981 a great deal of change occurred. It was not possible to determine which tactics or strategies were most influential. What can be observed is that all of the tactics and strategies collectively contributed to more use of kits by teachers. These actions were designed in response to data provided to the principal and occurred as a result of administrative team sharing, generating of ideas, planning and participating in the delivery of the interventions. Through the team the principal exercised "presence" and impact.

What Have We Learned About The Effects of Principal Interventions

1. Principal interventions do have effects on teacher behavior.

2. Interventions made by principals can be identified and their effects can be traced.

3. Effects of interventions may be immediate as in the case of incident interventions or they may be cumulative as in the case of tactic and strategy interventions.

4. Through their interventions, or absence of them, principals convey to teachers their expectations, or lack of them. Interventions that communicate the principal's expectations and are followed by actions to assist and monitor are most likely to result in desired teacher behavior.

5. Effects of interventions can range from negative to no effect to very positive. Therefore, it is important that principals intervene in a planned, purposeful manner and follow through to monitor their effects.

6. Incident interventions can and do have significant effects. Since the majority of principal interventions are at the incident level it behooves principals to be keenly aware of the many ways in which they intervene. Most, if not all, of the principals in this study were not aware of the many interventions they made until they began to record them as a part of this study.

Discussion/Implications

Principals do have the resources and opportunities to make interventions which can affect teachers' use of instructional innovations. There are ways of structuring the interventions principals make and analyzing the effects of these interventions on teachers during the change process. The methods of

documenting and analyzing interventions described in this paper are not only useful for research purposes but also for practitioners themselves, to use to plan interventions and to study the effects of their actions. The examples described in this paper demonstrate that effective interventions do not have to be time-consuming and cumbersome for the administrator. In addition, many responsibilities related to supporting use of an innovation can be delegated quite effectively by the principal as is clearly demonstrated by two of the examples included. In some instances it is necessary to intervene in several different areas in order to achieve a single goal.

Another point that should be emphasized is the need for principals to use the data sources available to them. In the case of the principal who was supporting teachers use of the kits, the principal might not have become aware that teachers were not using the kits had it not been for the formal data that was provided to her. In many cases, information is not readily apparent to principals in their day-to-day activities and can only be gathered through formal data-gathering methods.

The examples included in this paper are from a data base of more than 2,000 interventions. In each instance, the principal had a choice about whether to intervene and how to intervene. The examples presented, along with numerous others in the data base, clearly show that the interventions made by the principal did have effects on teachers and their use of an instructional innovation. Principals can and do make a difference with the interventions that they make. Those who focus on matters other than instruction no doubt affect the areas in which they concentrate; those who focus on instructional leadership make a difference in the teaching and learning that occurs in classrooms.

Appendix A

Based on findings from three separate studies three change facilitator styles have been identified (Hall, Rutherford & Griffin, 1982). The three styles vary on a series of dimensions that have to do with concerns about facilitating change and the behaviors that a person playing out each style stereotypically does. These three styles do not represent the universe of possibilities by any stretch of the imagination. They represent three distinct styles that were most readily identifiable in our studies. In general these styles are represented in the following ways.

Responders place heavy emphasis on allowing teachers and others the opportunity to take the lead. They see their primary role as administrative; they believe that their teachers are professionals who are able to carry out their instructional role with little guidance. Responders do not articulate visions of how their school and staff should change in the future. They emphasize the personal side of their relationships with teachers and others. Before they make decisions they often give everyone an opportunity to have input so as to weigh their feelings or to allow others to make the decisions. A related characteristic is the tendency toward making decisions in terms of immediate circumstances rather than in terms of longer range instructional and school goals. In this sense they remain flexible and willing to make last minute changes in decisions.

Managers represent a broader range of behaviors. At times they appear to be very much like Responders and at other times they appear to be more like Initiators. The variations in their behavior seem to be linked to how well they understand and buy into a particular change effort. In general they see to it that basic jobs are done. They keep teachers informed about decisions

and are sensitive to teacher needs. When they learn that the central office wants something to happen in their school they see that it gets done. However, they do not typically initiate attempts to move beyond the basics of what is imposed. Yet, when a particular innovation is given priority they can become very involved with their teachers in making it happen.

Initiators seize the lead and make things happen. They tend to have very strong beliefs about what good schools and teaching should be like and work intensely to attain this vision. Decisions are made in relation to the goals of the school and in terms of what is best for students, not necessarily what is easiest or will make teachers the happiest. Initiators have strong expectations for students, teachers and themselves. When they feel it is in the best interest of their school, particularly the students, Initiators will seek changes in district programs or policies or they will reinterpret them to suit the needs of the school.

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